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2019

Theoretical approaches in the development and evaluation of behaviour change interventions that improve clinicians' antimicrobial prescribing: a systematic review

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Background

- Many countries have developed antimicrobial stewardship (AMS) programmes i.e. interventions designed to improve antimicrobial prescribing/utilisation, minimise antimicrobial resistance and improve patient outcomes.
- There remains a need for theoretically based interventions to improve clinicians' antimicrobial prescribing.

Review aim

- To systematically review, critically appraise, synthesise and present the existing evidence for theoretical approaches in the development and evaluation of behaviour change interventions that improve clinicians' antimicrobial prescribing.

Methods

- The review protocol was developed and registered with the International Prospective Register of Systematic Reviews¹.
- Databases were searched from inception to October 2018 for published, peer-reviewed studies investigating theoretically based behaviour change interventions designed to improve clinicians' antimicrobial prescribing (Figure 1).
- Study selection, quality assessment and data extraction were conducted independently by two reviewers.
- The Theory Coding Scheme (TCS) was used to evaluate the extent of theory use².
- A narrative approach to data synthesis was undertaken, in relation to the UK Medical Research Council (MRC) Framework (Figure 2)³.

Review characteristics

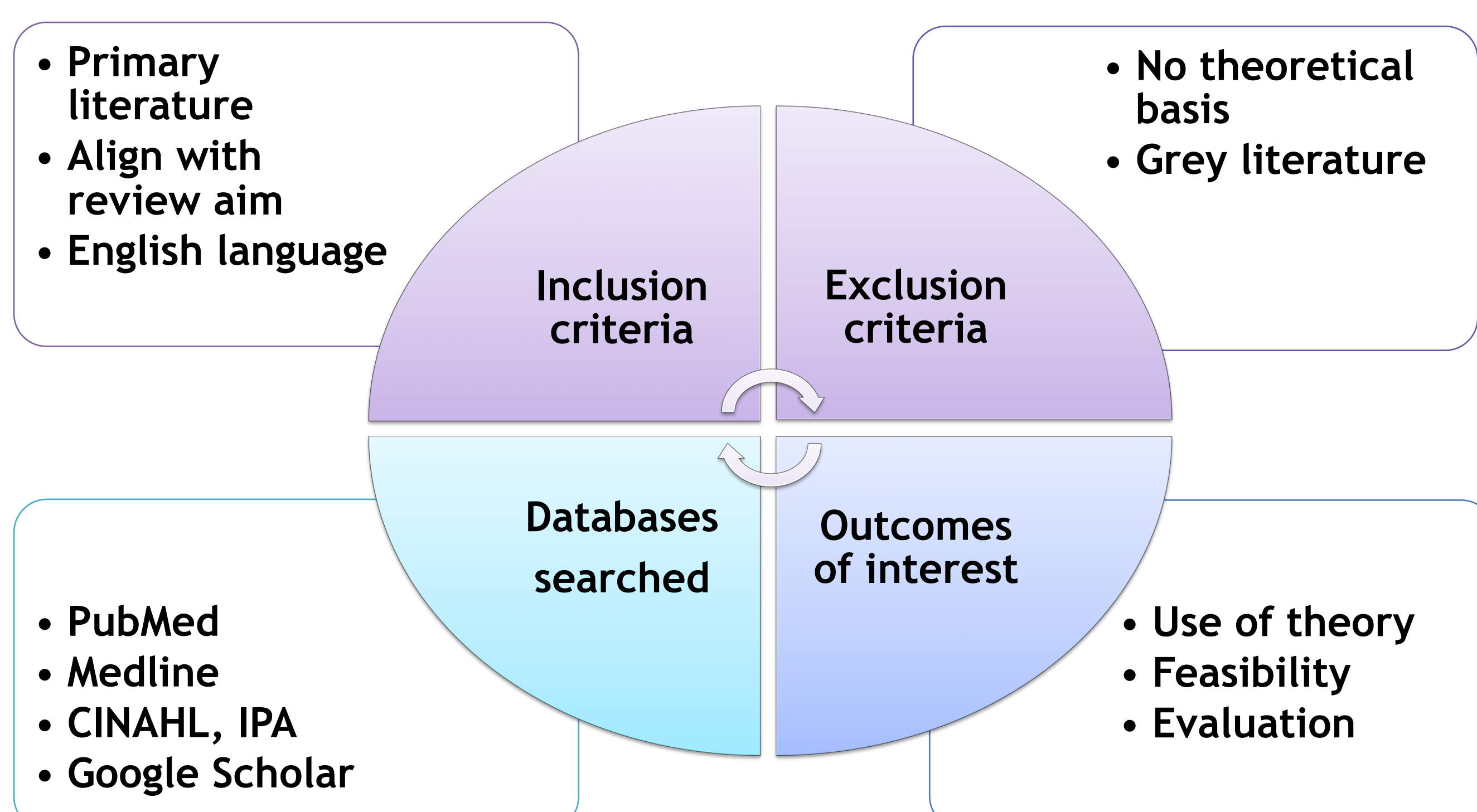


Figure 1. Key characteristics of the systematic review

The UK MRC Framework

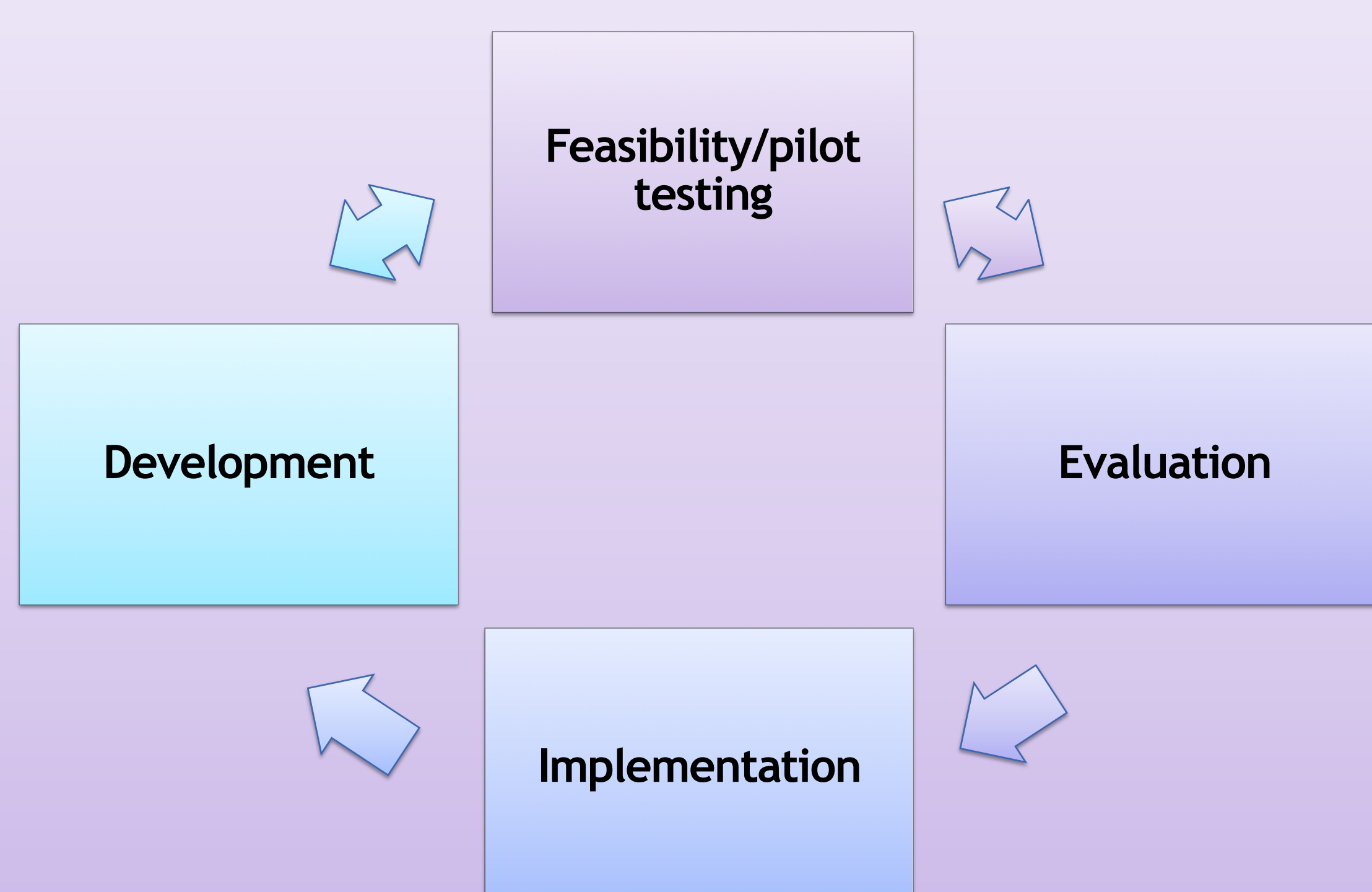


Figure 2. Key phases of developing and evaluating complex interventions³

Results

- Ten studies met the inclusion criteria and were included in the systematic review (Figure 3).
- There was no optimal use of theory as recommended in the TCS.
- Most studies employed quantitative designs (n = 4), with fewer qualitative designs (n = 3). The remaining three studies employed mixed-methods designs.
- Most of the studies included were conducted in the UK (n = 8), with one study each in Canada and Sweden.
- The majority of studies were carried out in primary care settings (n = 9), targeting respiratory tract infections (n = 8).
- The main groups targeted were medical doctors (n = 10) and nurses (n = 4).
- Theoretical approaches used to inform the design and choice of intervention varied across studies.

Results

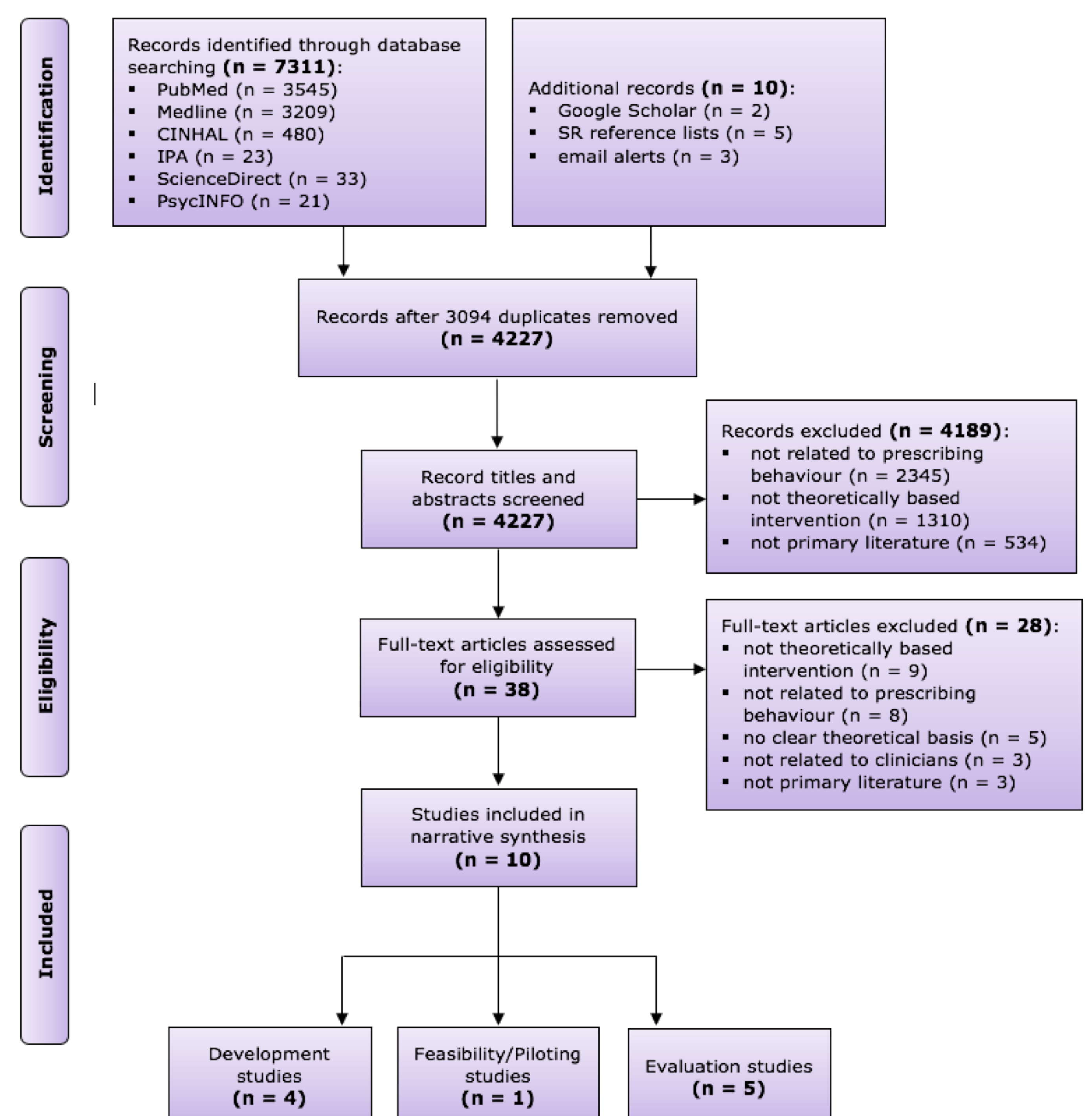


Figure 3. PRISMA flow chart presenting the study selection process

Conclusion

- This systematic review is the first to investigate theoretically based behaviour change interventions that improve clinicians' antimicrobial prescribing.
- Few studies involving theory in intervention development and evaluation were identified, none was from the Middle East.
- There is a need for better quality, primary research in this area.
- The review findings will help inform the development and evaluation of future theoretically based AMS interventions.

References

- Talkhan H, Cunningham S, Stewart D, McIntosh T, Al Hail M, Abdul Rouf P and Ziglam H. The application and use of theory in the development and evaluation of behaviour change interventions designed to improve clinicians' antimicrobial prescribing: a systematic review protocol. PROSPERO. 2018;CRD42018098586.
- Michie S, Prestwich A. Are interventions theory-based? Development of a theory coding scheme. Health Psychol. 2010;29:1-8.
- Anderson R. New MRC guidance on evaluating complex interventions. BMJ. 2008;337(oct22 1): a1937-a1937.